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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/864,431	05/24/2001	Erwin Hudson	WILD 005/00US	2668

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EXAMINER	
DEAN, RAYMOND S	

ART UNIT	PAPER NUMBER
2684	

DATE MAILED: 02/18/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/864,431	HUDSON ET AL.	
	Examiner	Art Unit	
	Raymond S Dean	2684	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1 - 16* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1 - 16* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

2. Claims 1 – 6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buer (US 2002/0132580 A1) in view of Matsumoto et al. (US 2003/0102924 A1).

Regarding Claim 1, Buer teaches a method for controlling an amount of power that may be applied to a power amplifier of a transmitter unit of a satellite-based data communications system method comprising: delivering a transmission signal from a satellite modem to the transmitter of the satellite-based data communications system (Figure 3, Section 0029 lines 1 – 5, Section 0030 lines 1 – 3, Section 0033 lines 1 –2); monitoring a direct current of an input signal applied to the power amplifier of the transmitter unit to determine when the direct current of input signal applied to the power amplifier exhibits a predetermined characteristic (Figure 3, Figure 4, Sections 0034 – 0039, the P1 dB compression point is the predetermined characteristic); in response to control signals received from a selected element of the satellite based data communications system (Figure 3, the control signals are provided by the DC current sensor and the Power Detection Algorithm circuit, which are elements of the satellite

based system), allowing for increased input signal power to applied to the power amplifier of the transmitter unit so long as the direct current of the input signal applied to the power amplifier does not exhibit the predetermined characteristic (Figure 3, Figure 4, Sections 0034 – 0039); and preventing increased input signal power from being applied to the power amplifier of the transmitter unit when the direct current of the input signal exhibits the predetermined characteristic (Figure 3, Figure 4, Sections 0034 – 0039).

Buer does not specifically teach a direct current component.

Matsumoto teaches a direct current component (Section 0021 lines 9 – 13).

Buer and Matsumoto both teach the use of amplifiers for the transmission of RF signals in wireless systems thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to make a design preference and use the direct current component taught in Matsumoto in the transmitter unit of Buer as an alternative means for monitoring the saturation point of an input signal to the amplifier such that optimal uplink power control is achieved.

Regarding Claim 2, Buer in view of Matsumoto teaches all of the claimed limitations recited in Claim 1. Buer further teaches a transmitter unit that comprises a transmitter/receiver (transceiver) unit (Figure 3).

Regarding Claim 3, Buer in view of Matsumoto teaches all of the claimed limitations recited in Claim 1. Buer further teaches the step of preventing increased input signal power from being applied to the power amplifier of the transmitter unit that

comprises controlling a level of the input signal within the transmitter unit with an automatic gain or level control circuit (Figure 3, Section 0033 lines 5 – 6).

Regarding Claim 4, Buer in view of Matsumoto teaches all of the claimed limitations recited in Claim 1. Buer further teaches generating a signal indicative of the level of output signal power being produced by the transmitter unit; and transmitting, via the transmitter unit and to a satellite of the satellite-based data communications system, a signal descriptive of the level of output signal power currently being produced by the transceiver unit (Section 0036, the input signal will be limited such that the amplifier will not be driven into a saturation and/or a non linear range thus there will be optimal transmit power on the uplink).

Regarding Claim 5, Buer teaches all of the claimed limitations recited in Claim 4. Buer further teaches transmitting from the selected element of the satellite-based communications system to the satellite modem a signal for effecting a variation of the level of output signal power being produced by the transmitter unit (Figure 3, the Power Detection Algorithm circuit provides the signal to the modem that causes said modem to vary it's signal output which ultimately varies the output signal power that is transmitted on the uplink).

Regarding Claim 6, Buer in view of Matsumoto teaches all of the claimed limitations recited in Claim 1. Buer further teaches a selected element of the satellite-based communications system that comprises either a satellite or a satellite communications network (Figure 3, the satellite communications network comprises the Power Detection Algorithm circuit).

3. Claims 14 and 15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Buer (2002/0132580 A1) in view of Boesch.

Regarding Claim 14, Buer teaches a transmitter unit power control system for use with satellite-based data communications systems, the transmitter unit power control system comprising: a modulator circuit for providing a data signal to a transmitter unit (Figure 3, Section 0033 lines 3 - 4); a power amplifier circuit provided within the transmitter unit for amplifying the data signal and causing the amplified data signal to be transmitted to a satellite via a radio frequency communications link (Figure1, Figure 3, Section 0020, Section 0030 lines 1 - 3); a DC current source configured to provide a DC current to the power amplifier circuit (Figure 3, Section 0033 lines 2 – 3); a current monitor for monitoring a characteristic of the DC current provided to the power amplifier circuit (Figure 3, Sections 0034 – 0035); a comparator circuit coupled to the current monitor (Figure 3, Figure 5, Sections 0035, 0044, and 0045, the Power Detection Algorithm circuit is comparing the values to the inflection point value), a telemetry circuit (Figure 2), and a power regulator circuit associated with the transmitter unit (Figure 3, Section 0033 line 5 - 6).

Buer does not specifically teach a final stage.

Boesch teaches a final stage (Column 6 lines 27 – 35).

Buer and Boesch both teach the use of amplifiers for the transmission of RF signals in wireless systems thus it would have been obvious to one of ordinary skill in the art at the time the invention was made to use the final stage taught in Boesch in the

amplifier of Buer such that there will be optimal amplification of the RF signal on the uplink.

Regarding Claim 15, Buer in view of Boesch teaches all of the claimed limitations recited in Claim 14. Buer further teaches a current monitor that is configured to directly monitor the DC current (Section 0034).

Claim Rejections - 35 USC § 102

4. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

5. Claims 7 – 13 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Buer (US 2002/0132580 A1).

Regarding Claim 7, Buer teaches a system for regulating an amount of power provided to a power amplifier of a transmitter unit of a satellite-based data communications system, the system comprising: a modem for delivering a transmission signal to the power amplifier of the transmitter unit and for regulating an amount of input signal power to be provided to the transmitter unit (Figure 3, Section 0033 lines 1 – 6); a current monitor for monitoring a level of a direct current provided to the power amplifier

of the transmitter unit (Figure 3, Section 0034); and a circuit for preventing an increased amount of power from being provided to the power amplifier of the transmitter unit when the level of the direct current provided to the power amplifier achieves a predetermined threshold (Figure 3, Figure 4, Section 0033 lines 5 – 6, Sections 0034 – 0039, the P1 dB compression point is the predetermined threshold, the Automatic Level Control circuit, in conjunction with the Power Detection Algorithm circuit and the current sensor, limits the input power).

Regarding Claim 8, Buer teaches all of the claimed limitations recited in Claim 7. Buer further teaches a transmitter unit that comprises a transmitter/receiver (transceiver) unit (Figure 3).

Regarding Claim 9, Buer teaches all of the claimed limitations recited in Claim 7. Buer further teaches a circuit for preventing an increased amount of input signal power from being applied to the power amplifier that comprises an automatic gain or level control circuit (Figure 3, Section 0033 lines 5 - 6).

Regarding Claim 10, Buer teaches all of the claimed limitations recited in Claim 7. Buer further teaches a circuit for preventing an increased amount of input signal power from being applied to the power amplifier that comprises a processor that discontinues an operation of the transmitter unit when the level of direct current provided to the power amplifier achieves the predetermined threshold (Section 0043).

Regarding Claim 11, Buer teaches a circuit for regulating an amount of power to be provided to a power amplifier of a transmitter unit of a satellite-based data communications system, the circuit comprising: means for monitoring an amount of

current into the power amplifier of the transmitter unit; and means for limiting the power produced by the transmitter unit when the amount of current applied to the power amplifier achieves a predetermined threshold (Figure 3, Figure 4, Section 0033 lines 5 – 6, Sections 0034 – 0039, the P1 dB compression point is the predetermined threshold, the Automatic Level Control circuit, in conjunction with the Power Detection Algorithm circuit and the current sensor, limits the input power which in turn limits the output power).

Regarding Claim 12, Buer teaches all of the claimed limitations recited in Claim 11. Buer further teaches a transmitter unit that comprises a transmitter/receiver (transceiver) unit (Figure 3).

Regarding Claim 13, Buer teaches all of the claimed limitations recited in Claim 11. Buer further teaches a means for providing to a modem associated with the transmitter unit an indication of a strength of a signal transmitted from the transmitter unit to a satellite; and means for varying the power produced by the transmitter unit in response to the indication of the strength of the signal transmitted from the transmitter unit to the satellite (Figure 2, the RF power detector detects the signal strength of a signal transmitted from the transmitter to the satellite, said power detector sends a control signal to the telemetry interface circuit which then sends a control signal to the Automatic Level Control circuit, which controls the input signal power and consequently the output signal power).

Regarding Claim 16, Buer teaches a method for controlling a level of an input signal applied to a power amplifier of a transmitter unit of a satellite-based

telecommunications system, the method comprising: monitoring a direct current into the power amplifier to determine when the direct current exhibits a predetermined characteristic, and limiting the level of the input signal applied to the power amplifier when the direct current exhibits the predetermined characteristic (Figure 3, Figure 4, Section 0033 lines 5 – 6, Sections 0034 – 0039, the P1 dB compression point is the predetermined threshold, the Automatic Level Control circuit, in conjunction with the Power Detection Algorithm circuit and the current sensor, limits the input power).

Conclusion

6. Any inquiry concerning this communication should be directed to Raymond S. Dean at telephone number (703) 305-8998.

If attempts to reach examiner by telephone are unsuccessful, the examiner's supervisor, Nay Maung, can be reached at (703) 308-7745. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

Or faxed to:

(703) 872-9314 (for Technology center 2600 only)

Hand – delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist). Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377

NAY MAUNG
SUPERVISORY PATENT EXAMINER